

**COMPUTER-IMPLEMENTED METHOD, SYSTEM AND PROGRAM  
PRODUCT FOR PERFORMING BRANCHED ROLLUP FOR SHARED  
LEARNING COMPETENCIES IN A LEARNING ENVIRONMENT**

**Abstract of the Invention**

Under the present invention a hierarchical tree corresponding to the learning environment is provided. When the state of a shared learning competency in the learning environment is changed, branched rollup through the hierarchical tree is performed so that all applicable nodes are rolled up without a node being rolled up more than once. Specifically, when the state of the shared learning competency is changed, control blocks are generated for each predecessor of the “sharing” nodes. The control block for each predecessor identifies the successors (nodes) that must be rolled up before the predecessor itself can be rolled up. Under this methodology, a node will only be rolled up when all necessary successors have been rolled up, thus, preventing repeated rollup of any of the nodes.